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# Center for Urban Ecology Strategic Plan

## *Science and Service through Partnerships*

### **Mission**

*The Center for Urban Ecology is an interdisciplinary team that provides scientific guidance, technical assistance and education for the preservation, conservation and enhancement of park resources within urbanizing landscapes.*

### **Vision**

The Center for Urban Ecology is committed to improving and conserving the quality of natural resources throughout the National Capital Region (NCR). Working with resource managers, researchers, and the public, we strive to discover and incorporate new ways to understand, preserve, and enhance natural communities within and around the national parks in the metropolitan Washington, D.C. area. By continuing to promote the best available science for park management decisions, we aspire to be recognized as leaders in the important field of urban ecosystem stewardship.

### **Goal 1. Offer leadership to the region by identifying and answering science questions and issues based on resource management needs.**

#### **Objective 1. Identify park research and information needs.**

- Task 1.* Visit parks to discuss ongoing projects and assess individual needs.
- Task 2.* Collaborate with natural resource managers on the Natural Resources Advisory Team (NAT) and other planning meetings to define regional science questions.
- Task 3.* Build collaborations with the scientific community to understand the role of NCR parks in broader scientific issues.
- Task 4.* Develop and maintain lists of park research, technical assistance, and education needs.
- Task 5.* Facilitate research by coordinating the use of the Research Permit and Reporting Program.

#### **Objective 2. Pursue and secure funding for science studies.**

- Task 1.* Identify external and internal funding sources to fulfill NCR research needs.
- Task 2.* Support proposal development and submission by soliciting researchers, reviewing proposals and study plans, and coordinating peer reviews.
- Task 3.* Work with parks to utilize the Project Management Information System (PMIS—an NPS software package) to identify unfunded needs.
- Task 4.* Synthesize literature to support applied research proposals.
- Task 5.* Assist in the development and management of agreements and contracts to accomplish work.

**Objective 3. Interpret project results and communicate management implications.**

*Task 1.* Facilitate seminars and other venues to convey management implications of project results.

*Task 2.* Develop a web-accessible annotated bibliography.

**Objective 4. Maintain professional expertise in relevant scientific fields.**

*Task 1.* Review scientific literature pertinent to field of expertise.

*Task 2.* Attend and give presentations at seminars and professional society meetings related to natural resource management.

*Task 3.* Enhance professional skills and abilities in resource management through training opportunities.

**Goal 2. Provide technical assistance to park managers.**

**Objective 1. Promote the integration of science-based information into management decisions.**

*Task 1.* Participate in park environmental compliance and planning processes.

*Task 2.* Implement, develop, and facilitate the review of resource and other planning documents and best management practices.

*Task 3.* Synthesize current science studies and convey management implications.

**Objective 2. Answer questions and address specific park issues.**

*Task 1.* Provide in-park assessments and consultations.

*Task 2.* Review scientific literature and solicit expert opinions to address park natural resource issues.

*Task 3.* Select, implement, and evaluate methods for specific park issues.

**Goal 3. Function as a model interdisciplinary team using a science-based approach for resource stewardship.**

**Objective 1. Maintain an interdisciplinary team to achieve an ecosystem approach that addresses resource management needs.**

*Task 1.* Maintain an interdisciplinary staff at CUE.

*Task 2.* Use a routing process through CUE program areas for projects with significant resource consequences or obvious multi-disciplinary aspects, as well as for projects submitted in PMIS.

*Task 3.* Hold regular staff planning meetings to discuss upcoming projects and multi-park issues and identify opportunities for using an interdisciplinary approach.

*Task 4.* Hold in-house CUE seminars to teach and inform each other about new science, basic principles that underpin the work we do in our respective program areas.

**Objective 2. Demonstrate the value of using an interdisciplinary approach for park planning and resolution of resource management issues.**

- Task 1.* Document the process, problems addressed, and the approach for solving resource management issues.
- Task 2.* Train facilitators who can help parks to use an interdisciplinary approach to address a resource issue.
- Task 3.* Teach others how to implement the process (e.g., through workshops, presentations, and posters).

**Goal 4. Implement and manage regional resource management programs.**

**Objective 1. Inventory and Monitoring (I&M).**

- Task 1.* Document species present in parks through targeted field investigations and compilation of existing data.
- Task 2.* Develop and implement a long-term monitoring program for natural resources.
- Task 3.* Develop and maintain a data management program to archive, analyze, interpret, and share information gathered by the I&M program.
- Task 4.* Develop and maintain strategies to involve parks, scientists, and others in the Region's I&M program.

**Objective 2. Air Resources.**

- Task 1.* Integrate and adapt Air Resources Division (ARD) national-level resource monitoring and conservation strategies for the benefit of the NCR.
- Task 2.* Maintain and improve existing NCR pollutant monitoring infrastructure and data gathering capabilities.
- Task 3.* Cooperate with Cooperative Ecosystem Studies Units (CESU) partners and federal and state agencies to obtain modeled doses of air pollutants to NCR landscapes.
- Task 4.* Coordinate with I&M program and ARD to ensure that resources, such as inter-agency air quality related values affected by air pollutants are monitored in the NCR for the long term.

**Objective 3. Exotic Plant Management.**

- Task 1.* Maintain an Exotic Plant Management Team (EPMT).
- Task 2.* Survey and map non-native plant populations within the parks.
- Task 3.* Develop and implement treatment plans.
- Task 4.* Monitor and review the effectiveness of treatments.
- Task 5.* Compile and maintain a database of exotic species, treatment, photo documentation, and GIS information.
- Task 6.* Develop new treatment techniques in cooperation with researchers and other weed control specialists.
- Task 7.* Provide education and outreach about exotic species and the EPMT to parks, partners, and the public.

**Objective 4. Water Resources.**

- Task 1.* Provide technical assistance on water resource and environmental engineering issues to the parks.
- Task 2.* Provide technical assistance on aquatic ecology, watershed and wetland management, water quality, and restoration of impaired aquatic systems.
- Task 3.* Coordinate with other federal, state, and local government agencies and non-government organizations on water resource issues affecting the region.
- Task 4.* Develop and implement an NCR Network Water Quality Monitoring Plan.
- Task 5.* Analyze complex water resource issues related to park management.
- Task 6.* Acquire hydraulic, hydrologic and geographic information about the parks, including quantitative data from existing sources.
- Task 7.* Assist park-based water quality specialists in areas of water quality chemistry, sampling, analysis, study designs, toxicity and aquatic risk assessments, and modeling.

**Objective 5. Integrated Pest Management (IPM).**

- Task 1.* Coordinate the NCR IPM program to ensure that pest management activities in the parks are conducted in accordance with NPS policy, federal and state pesticide laws, and other regulations and guidance.
- Task 2.* Provide technical assistance to parks in solving pest problems, including pest identifications, site inspections, damage assessments, research on pest management options, selection of appropriate control techniques, and recommendations for prevention.
- Task 3.* Serve as technical advisor to the region's Exotic Plant Management Team on invasive non-native plants.
- Task 4.* Coordinate the U.S. Forest Service's Forest Pest Management program for NCR parks for significant insect pests and diseases such as gypsy moth, hemlock wooly adelgid, and Dutch elm disease.
- Task 5.* Provide regional direction for arthropod-borne diseases (i.e., involving invertebrate vectors) affecting humans in coordination with NPS-Washington Support Office (WASO) and other agencies as appropriate.

**Objective 6. Wildlife Management.**

- Task 1.* Provide technical expertise to park managers on the management of animal species.
- Task 2.* Conduct long term monitoring of deer populations in the Region and of resources impacted by deer such as vegetation and breeding birds.

**Objective 7. Urban Ecology Research Learning Alliance.**

- Task 1.* Promote and facilitate research projects.
- Task 2.* Prepare, edit, and submit proposals in PMIS with cooperating researchers under the Servicewide Combined Call (SCC).
- Task 3.* Coordinate the Regional Natural Resources Preservation Program (R-NRPP) funding panel to promote park participation in prioritizing regional projects.
- Task 4.* Continue to pursue partnerships with government and university researchers and natural resources continuing education organizations.
- Task 5.* Facilitate educational outreach of research results.
- Task 6.* Help organize meetings for presentation of NRPP Annual Round-Up or biannual Joint Natural and Cultural Resources Presentations.

**Objective 8. Cooperative Ecosystem Studies Unit (CESU).**

- Task 1.* Develop cooperative partnerships between NPS managers and CESU faculty to collaboratively address resource issues within parks.
- Task 2.* Develop multi-scale interdisciplinary research and assistance projects with other CESU federal agencies to increase effectiveness of resource conservation efforts.
- Task 3.* Manage administrative aspects of the Chesapeake Watershed CESU Cooperative Agreement.
- Task 4.* Increase avenues by which students, particularly those from underrepresented socioeconomic groups, can attain training and educational opportunities in resource conservation within the parks.

**Objective 9. Threatened & Endangered Species.**

- Task 1.* Assist and facilitate project tasks and permits for federally endangered species research and recovery.
- Task 2.* Help coordinate and edit regional management plans and submit for FWS Section 7 formal or informal reviews.
- Task3.* Facilitate communication of endangered species science information.

**Objective 10. Vegetation Support.**

- Task 1.* Coordinate the Region's vegetation mapping project with NCR I&M and GIS Coordinators.
- Task 2.* Provide statistical review and guidance to parks for proposed or on-going vegetation or other studies.
- Task 3.* Offer guidance and review on plant community and population monitoring.
- Task 4.* Provide technical support to parks for the identification and preservation of plant resources
- Task 5.* Assist EPMT with plant specimen identification, as needed.

**Objective 11. Geology and Soils.**

- Task 1.* Identify and describe significant geological features and ensure their inclusion in park and regional planning.
- Task 2.* Direct a program of soil survey and analysis promoting the inclusion of information in park and regional planning.
- Task 3.* Facilitate a research program to identify and address soil issues associated with land use fragmentation, development, and intense use.
- Task 4.* Provide technical support relating to enhancing and protecting soil resources in relationship to natural, horticultural, and agricultural resources.
- Task 5.* Incorporate geological and soil information into education opportunities for NPS management and the public.

**Objective 12. Ecology**

- Task 1.* Provide guidance to parks on ecosystem-based resource monitoring.
- Task 2.* Identify and clarify significant ecosystem processes within parks.
- Task 3.* Contribute to multi-scale i.e., site to landscape level, conservation strategies within the Region.

**Objective 13. Cultural Landscape Sustainability**

- Task 1.* Provide guidance in the planning and design of sustainable horticultural landscapes focusing on the selection of plant material and site-specific requirements.
- Task 2.* Provide guidance in the management of agricultural resources.
- Task 3.* Assist in the design, maintenance, and utilization of landscape resource inventories and assessments.
- Task 4.* Participate on the Horticultural Advisory Review Committee (HARC).

**Goal 5. Inform and engage NPS staff and the public in regional natural resource conservation and preservation issues.****Objective 1. Establish collaborative relationships among NPS divisions, educational institutions, partnering agencies, and organizations to gather and share information and expertise.**

- Task 1.* Identify experts and potential collaborators.
- Task 2.* Develop strategies for working with collaborators.

**Objective 2. Effectively communicate with those who use and affect our resources.**

- Task 1.* Identify and prioritize target audiences for each program area and CUE as a whole.
- Task 2.* Develop and address information needs of each target audience.
- Task 3.* Identify and provide the most appropriate method for communicating information to each target audience.
- Task 4.* Create and maintain dynamic, science-based, information distribution system for cooperators and public via CUE web site.
- Task 5.* Design and incorporate outreach into the planning of each appropriate program objective.

**Objective 3. Inspire stakeholders to become actively involved in resource conservation and preservation.**

- Task 1.* Provide volunteer opportunities.
- Task 2.* Promote the benefits of science-based resource management, use, and planning.
- Task 3.* Encourage public involvement in park planning and policy-making.

**Goal 6. Provide expertise for national natural resource programs.****Objective 1. Provide liaisons and assistance to national natural resource programs and initiatives.**

- Task 1.* Participate in national task forces, funding panels, and steering committees.
- Task 2.* Coordinate regional response for annual and other reports.

**Objective 2. Offer direction in the development of national policies, regulations, and guidelines.**

- Task 1.* Participate in the drafting and revision of policies, regulations, and guidelines.
- Task 2.* Coordinate regional response on Director Order revisions, NPS policies, guidelines, strategic plans, and regulations through review and comment.